

COMPATIBILITY DETERMINATION
for
Boating and Kayaking
on
San Pablo Bay National Wildlife Refuge

Uses: Boating and Kayaking

Refuge Name: San Pablo Bay National Wildlife Refuge, Solano and Sonoma Counties, California.

Establishing Authorit(ies):

Endangered Species Act of 1973, as amended (16 U.S.C. 1532-1544, Stat 884)
Migratory Bird Conservation Act of 1929 (16 U.S.C. 715-715d)
Act Authorizing the Transfer of Certain Real Property for Wildlife (16 U.S.C. 667b)

Refuge Purpose(s):

San Pablo Bay NWR was established (1) A... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.@ 16 U.S.C. 715d (Migratory Bird Conservation Act), (2) A... particular value in carrying out the national migratory bird management program.@ 16 U.S.C. 667b (An Act Authorizing the Transfer of Certain Real Property for Wildlife, or other purposes), (3) A... to conserve (A) fish or wildlife which are listed as endangered species or threatened species... or (B) plants...@ 16 U.S.C. 1534 (Endangered Species Act of 1973).

National Wildlife Refuge System Mission:

The mission of the system is to administer a national network of land and water for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the Benefit of present and future generations of Americans.

Description of Use(s):

Background

The U.S. Fish and Wildlife Service has identified six priority public uses including fishing, hunting, wildlife observation, photography, environmental education, and interpretation. These activities are promoted in the National Wildlife Refuge System Improvement Act of 1997.

San Pablo Bay navigable sloughs and open waters, much of which is leased from the State of California Lands Commission (SLC) and managed by the Refuge, are extremely important waters due to fish and wildlife populations and the proximity to safe road access and boat launches in Vallejo and Port Sonoma. These facilities enable the Refuge to promote additional compatible wildlife-dependent recreation opportunity to the general public and neighboring

communities in Solano, Napa, Sonoma, and Contra Costa counties.

Boating and kayaking for the purposes of research, hunting, environmental education, wildlife observation, wildlife photography and fishing can be accommodated.

Description

Boating is currently limited to the open waters and navigable sloughs of northern San Pablo Bay. Kayaking is already accommodated through boat launches in Vallejo, Port Sonoma and Hudeman Slough. In conjunction with future restoration work kayak access directly onto the Refuge will be accommodated through the construction of an access point at the Cullinan Ranch unit once it is restored to tidal flows. Regulations pertaining to boating in the Cullinan Unit and maps of the adjoining sloughs will be available at a kiosk located near the parking lot. It is not expected that kayaking will remain focused within the Cullinan Ranch Unit due to the open water conditions and wind fetch that will prevail for as long as 50 years after restoration is complete. Most kayakers will use Cullinan as an access site to other areas of the Refuge, adjacent sloughs and channels. Eventual formation of tidal marsh and slough channels within Cullinan may provide better kayak suitability eventually but full restoration of these marshes and channels may also require future closures of some areas that become inhabited by sensitive wildlife species. A slough channel leading to the kayak access site will be deepened prior to tidal restoration of the Cullinan Ranch Unit. This channel will not be dredged or maintained once tidal restoration is completed. If the access site becomes inaccessible from sedimentation, then, a new kayak access site will be located and designated elsewhere within the Refuge boundary.

Motorized boats will be permitted to enter the Refuge for wildlife observation, wildlife photography, environmental education, hunting and fishing. Boats will be permitted to travel within the sloughs and open water of the Refuge without speed limitation, but will be required to maintain a no-wake speed while in the Cullinan Unit to reduce erosive effects of waves to the shorelines and levees as well as to minimize disturbance to wildlife in the area. No boat ramp facilities or docking will be available within Cullinan.

Due to presence of sensitive wildlife species, no kayak or motorized boat access will be permitted within Lower Tubbs Island, Tubbs Setback or Guadalcanal. Eventual formation of tidal marsh and slough channels within other newly restored sites of the Refuge may require future closures of some areas that become inhabited by sensitive wildlife species.

All public use opportunities will be implemented in a manner to insure protection for endangered species and migratory birds by providing law enforcement patrols, education and outreach conducted on site as well as through tours and other group programs to create an environmental awareness of stewardship for marshes of the area, particularly at the Cullinan Ranch Unit. Once tidal restoration is complete, boating and kayaking to facilitate wildlife observation, wildlife photography, and fishing will be monitored and regulated. Public use activities will be permitted during daylight hours only.



U.S. Fish & Wildlife Service

San Pablo Bay National Wildlife Refuge

Marin, Napa, Sonoma and Solano Counties, California

Land Status

MARS05.025

122°30'48"W

122°36'48"W

122°38'12"W

122°39'36"W

122°41'00"W

122°42'24"W

122°43'48"W

122°45'12"W

122°46'36"W

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Availability of Resources:

Existing staff resources are available to manage the current boating-based fishing and wildlife observation program. Law enforcement is provided by officers with administrative offices at the San Francisco Bay NWR Complex in Fremont. The San Pablo Bay NWR office is currently located at 2100 Highway 37 in southern Petaluma, California. Visitors to the Refuge can obtain information about the Refuge and its public use programs at this facility.

Availability of kayak access at the Cullinan Ranch Unit will require the construction of a kayak access point. Funds to construct this access point are expected to be provided by the Wildlife Conservation Board (WCB). Periodic replacement and repair of signage will be necessary and will be funded through refuge maintenance funds.

Anticipated Impacts of the Use(s):

Large numbers of waterfowl, shorebirds, fish and other wildlife species use the Refuge for feeding, resting and in some cases, breeding. Two sensitive fish species occur within the San Pablo Bay including the Sacramento splittail minnow (*Pogonichthys macrolepidotus*) and the green sturgeon (*Acipenser medirostris*). Delta smelt (*Hypomesus transpacificus*), a small (3 inch) fish, may occur in the San Pablo Bay and may enter Cullinan during large fresh water outflows from the Sacramento-San Joaquin River delta. The presence of kayaks and boats should not create any disturbance to fish species.

Open water and tidal areas of the Refuge provide habitat for other sensitive species including the California clapper rail, black rail, western snowy plover, and salt marsh harvest mouse. Potential impacts to wildlife may occur through the use of boating and kayaking. Individual animals may be disturbed by human contact to varying degrees. Studies have shown that birds can be affected by human activities when they are disturbed and flushed from feeding, resting, or nesting areas. Flushing, especially repetitive flushing, can adversely affect habitat use patterns of many bird species. Flushing from an area can cause birds to expend more energy, be deterred from using desirable habitat, affect resting or feeding patterns, and increase exposure to predation or cause birds to abandon sites with repeated disturbance. (Smith and Hunt 1995). Migratory birds are observed to be more sensitive than resident species to disturbance (Klein 1989).

Though motorized boats generally have a greater impact on wildlife, even non-motorized boat use can alter distribution, reduce use of particular habitats by waterfowl and other birds, alter feeding behavior and nutritional status, and cause premature departure from areas (Knight and Cole 1995). However, compared to motorboats, canoes and kayaks appear to cause less disturbance to most wildlife species (DeLong 2002); and disturbance to birds in general is reduced when boats travel at or below the 5 mph speed limit.

The proposed use would not significantly impact the ability of the Refuge to protect wildlife, diverse tidal marsh, seasonal wetland habitats and adjacent transitional uplands critical to the needs of migratory birds and endangered species. The Refuge is already open to public access,

including by boat, and provides habitat for waterfowl, waterbirds, shorebirds and terns. In addition, the Service's efforts to protect these habitats and resources will be aided by placing speed restrictions on boats within some areas and increased public awareness of the habitats within and around the Refuge through environmental education and outreach. Education is critical for making visitors aware that their actions can have negative impacts on birds, and will increase the likelihood that visitors will abide by restrictions on their actions. For example, Klein (1993) demonstrated that visitors who spoke with refuge staff or volunteers were less likely to disturb birds.

Public Review and Comment:

Notice is provided for public review and comment to this compatibility determination on May 1, 2009 a period of 30 days. Notices will be posted at the entry location of the refuge and public notices will be submitted for advertisement in local city/county news press. Emails will also be sent to partners.

Further review of visitor opportunities on the Refuge will be evaluated during the Comprehensive Conservation Planning (CCP) currently in progress. All uses will be re-evaluated and open for discussion at public meetings.

Determination (Check One Below):

_____ Use is Not Compatible

_____ X _____ Use is Compatible

Stipulations Necessary to Ensure Compatibility:

Boating will be permitted at the Refuge with the following stipulations:

- Boaters must abide by State boating regulations. The Service will monitor boating through our law enforcement program to protect Refuge resources and the visiting public.
- A "Boating on the Refuge" flyer will be developed by the Public Use staff of the San Francisco Bay NWR Complex for San Pablo Bay NWR. These fliers will be available to the public at the Refuge Office on Highway 37. Information provided in this flyer will include no-wake speed limits, seasonal or specific area closures, and a map of trails in the adjacent sloughs.
- The public will be informed of new access sites and uses throughout the Refuge through interpretive, educational and regulatory materials located at the Refuge office and at the kiosk area near the wildlife observation/fishing pier and kayak access point at the Cullinan Ranch Unit.
- No personal watercraft will be permitted within Cullinan, Lower Tubbs Island, Tubbs

- Setback, or Guadalcanal.
- Signage and/or buoys will be placed on the perimeter of Cullinan and other areas where appropriate to indicate refuge boundaries and no-wake speed limits for motorized boats.

Justification:

Although boating and kayaking are not considered wildlife-dependent recreation, many wildlife dependent recreational activities (fishing, wildlife observation and photography) are associated with this use. Boating and kayaking would allow the visiting public to enjoy, experience, and learn about native fish and plants in these unique and rare habitats of northern San Francisco Bay region. Concerns about protecting rare native plants and animals, and the overall integrity of the marsh ecosystem, require that boating and kayaking be limited to the open waters of Cullinan Ranch and the west levee and the wildlife observation/fishing piers constructed on the west levee.

Mandatory Re-evaluation Dates (Provide Month and Year)

_____ Mandatory 15-year Reevaluation Date (for priority public uses)

 X Mandatory 10-year Reevaluation Date (for all uses other than priority public uses)

References Cited:

- DeLong, A. 2002. Managing Visitor Use & Disturbance of Waterbirds. A Literature Review of Impacts and Mitigation Measures.
- Klein, M. 1989. Effects of high levels of human visitation on foraging waterbirds at J.N. "Ding" Darling National Wildlife Refuge, Sanibel Florida. Masters thesis. Gainesville, Florida: University of Florida.
- Klein, M. 1993. Waterbird behavioral responses to human disturbances. *Wildl. Soc. Bull.* 21:31-39.
- Knight, R.L. and D.N. Cole. 1995. Wildlife responses to recreationists. Pages 71-79 in R.L. Knight and K.J. Gutzwiller, ed. *Wildlife and Recreationists: coexistence through management and research*. Island Press, Washington, D.C. 372 pp.
- Smith, L. and J.D. Hunt. 1995. Nature tourism: impacts and management. Pp. 203-219 in Knight, R.L.; Gutzwiller, K.J. (Wildlife and recreationists: coexistence through management and research, eds.). Island Press, Washington, D.C.

Refuge Determination:

Prepared by: _____ Date _____
Refuge Manager,
San Pablo Bay National Wildlife Refuge

Project Leader/
Refuge Manger
Approval: _____ Date _____
Project Leader,
San Francisco Bay National Wildlife Refuge Complex

Concurrence:

Region 8
Refuge Supervisor: _____ Date _____
Signature

Asst. Regional Director
Refuges, Pacific
Southwest Region: _____ Date _____
Signature